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Applicant(s): Chen, et al.
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REPLY BRIEF UNDER 37 C.F.R. § 41.41

Applicants appreciate the thorough review of the Appeal Brief as evidenced by the Examiner's Answer. In light of the Examiner's Answer, Applicants submit rebuttal arguments to address the rejections under 35 U.S.C. § 103(a), as well as clarify arguments previously submitted in the Appeal Brief.

Applicants submit that none of the cited references teach or suggest generating a travel itinerary booking record or PNR including information associated with at least one booked travel item segment and information identifying each CRS for a respective booked travel item segment, as recited by independent Claims 1, 12, and 24. In response, the Examiner acknowledges that Flake does not explicitly disclose this particular recitation, but contends that Flake inherently discloses "that some information identifying each CRS for a respective booked travel item segment must be stored for the system of Flake to process ticket refunds by establishing communication with the appropriate CRS." Flake discloses that if a ticket is void, the system establishes communication with an appropriate CRS and notes that the ticket is void in the CRS (col. 16, lines 31-34). Similarly, if a ticket is being returned for a refund, the Flake system establishes communication with the appropriate CRS and ARC accounting system and noting in those systems that a refund is due (col. 16, lines 38-41).

Applicants respectfully disagree with the Examiner's assertion, as simply because Flake provides a means for establishing communication with a CRS does not imply that the client's booking record or PNR includes information identifying each CRS for a respective booked travel item segment, as recited by Claims 1, 12, and 24. In fact, Flake only discloses that "travel arrangements" made in the past are stored on a PNR that can be identified by the customer's name (col. 8, lines 51-53). Moreover, Flake discloses that tickets are printed and distributed by the global distribution component (see col. 6, lines 28-35), while FIG. 16 of Flake relates to returned tickets from customers. Flake nowhere discloses in FIG. 16 or elsewhere that a customer's PNR is correlated with an appropriate CRS based on identifying information within the PNR, but rather suggests that it is the issued ticket that is used by the travel agent to identify the CRS. PNRs or travel itinerary booking records are distinctly different than booked tickets, as known to those of ordinary skill in the art and disclosed by Flake. Therefore, in contrast to the Examiner's statement that the information identifying each CRS for respective booked travel item segments must be stored for the system, Flake teaches that CRS information is stored within the relational database and that issued tickets can be identified with a respective CRS based on the information contained on a particular ticket – not based on a PNR.

The Examiner goes on to reiterate that the information identifying each CRS for a respective booked travel item segment included in the PNR is non-functional descriptive data. In particular, the Examiner believes that the information identifying a particular CRS for a booked travel item segment "is not utilized for any processing as set forth in the claim language" and rejects Applicants' arguments that the information would affect how the data processing system would operate, such as by writing code. The Examiner finds that Claim 1 only requires that at least one of the providing, allowing, and generating steps is performed by a data processing system such that the generating step is not necessarily performed by a data processing system. With respect to independent system Claim 12, the Examiner contends that "[t]he system would be structurally the same regardless of what type of data is on the record since the [] data is not functionally interrelated with the structure," and that allowing a client to book one or more travel segments is intended use.

Applicants respectfully disagree, as the information identifying each CRS for a respective booked travel item segment comprises at least a portion of the travel itinerary booking record or

PNR. In other words, the information contained on the booking record or PNR necessarily affects how the method of the claimed invention is performed, as there would be no booking record or PNR (as defined by the claimed invention) without it. As disclosed in the present application, “[t]he process 700 then creates a travel itinerary booking record, or more particularly the super PNR booking record, by storing for each travel item segment (e.g. in air table, car table, hotel table, respectively): 1. The CRS locator; 2. The CRS; 3. The TA group; along with other standard PNR data (e.g. name, address, telephone number, employer, etc.) (block 708).” Page 24, lines 12-16. Only after the booking record or PNR is created is the booking record or PNR stored in a database (see page 24, lines 17-18). Thus, whether the generation of the booking record or PNR is carried out by a data processing system is irrelevant to the fact that the information identifying each CRS for a respective booked travel item segment is necessary for the creation of the booking record or PNR and affects how the booking record and PNR (as defined by the claimed invention) is generated.

Furthermore, Applicants disagree that a booking engine that generates a PNR including information identifying each CRS for a respective booked travel item segment recited by independent Claim 12 is intended use. As set forth in MPEP §2106, in order to properly construe the claims, “[l]anguage that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.” Applicants submit that the information identifying each CRS for a respective booked travel item segment is necessarily included on the PNR and is not suggested or optional but is, rather, a further limitation of the functionality of the booking engine recited in the claim. Therefore, the information identifying each CRS for a respective booked travel item segment is functionally interrelated with the booking engine.

As a general proposition, the MPEP provides a section, § 2173.05(g), specifically directed to functional limitations which states:

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredient). There is nothing inherently wrong about defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F.2d 210, 169 U.S.P.Q. 226 (CCPA 1971). A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary

skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability of purpose that is served by the recited element, ingredient, or step.

In addition to this general proposition that functional limitations should be considered for purposes of patentability, the Board of Patent Appeals and Interferences in a recent, non-precedential decision styled *Ex parte Bamber* has considered instances, such as in the present application, in which an apparatus claim includes functional recitations. See Appeal No. 2005-2435 relating to Application No. 10/407,498. In *Ex parte Bamber*, the Board stated:

It is well established, of course, that the patentability of an apparatus claim is based on the apparatus rather than the manner in which it is used. For example, see *In re Case*, 370 F.2d 576, 579-80, 152 USPQ 235, 238 (CCPA 1967).

Nevertheless, to anticipate an apparatus claim, the prior art apparatus must not only possess the claimed structure but also must possess at least the capability of performing the functions required by the apparatus claim, and it is the examiner's burden to establish the reasonableness of believing that such functional limitations are an inherent characteristic of the prior art apparatus. See *Ex parte Levy*, 17 USPQ2d 1461, 1463-64 (Bd. Pat. App. & Int. 1990) and *Ex parte Skinner*, 2 USPQ2d 1788, 1789 (Bd. Pat. App. & Int. 1986). (emphasis added).

Although *Ex parte Bamber* is non-precedential, the *Ex parte Bamber* decision tracked the guidance of MPEP § 2112, part IV which provides that it is the Examiner's burden to provide rationale or evidence demonstrating the inherency of a result or characteristic alleged to be present in the prior art, whether under an anticipation or obviousness rejection. Therefore, Applicants submit that the Examiner has incorrectly ignored the functional language of independent Claim 12 for purposes of patentability, namely a booking engine that generates a PNR including information associated with at least one booked travel item segment and information identifying each CRS for a respective booked travel item segment. Even if the Examiner believes that the recitations of Claim 12 are an inherent characteristic of Flake, Applicants have adequately shown that the system of Flake does not disclose the capability of generating a PNR including information identifying each CRS for a respective booked travel item segment, as discussed above and recited by Claim 12 of the present application.

The Examiner also disagrees with the Applicants' interpretation of *In re Lowry* and *In re Gulack* but does not offer any particular rebuttal arguments other than a conclusory statement that the information identifying each CRS for a respective booked travel item segment is not

utilized for processing in the steps of the method or the system. Applicants only reiterate that *In re Gulack* relates to a “printed matter rejection,” which is factually irrelevant to the claimed invention. This distinction is exemplified in *In re Lowry*, where the court held that printed matter rejections were improper where the claims at issue involved claims relating to a memory, data processing system, and methods for processing and creating data structures. Therefore, Applicants respectfully submit that *In re Lowry* and *In re Gulack* support the fact that the information identifying each CRS for a respective booked travel item segment are functionally interrelated with the steps of the method, system, and machine-readable medium of the claimed invention.

The Examiner sets forth several arguments regarding Official Notice that was taken in the final Office Action. In the final Office Action, the Examiner broadly took Official Notice “that it is old and well known to document and record information associated with travel items so as to have the information available if information is needed,” and went further to find that it would have been obvious to have modified the method of Flake to include information identifying each CRS for a respective booked travel item segment based on this presumption. Despite traversing the Examiner’s Official Notice in a response to the final Office Action, the Examiner felt that Applicants traversal was inadequate, as noted in the Advisory Action. However, in the Examiner’s Answer, the Examiner apparently acknowledges that the Applicants’ traversal was appropriate based on the arguments presented in the Appeal Brief, as the Examiner goes to great lengths to find that taking of Official Notice was appropriate.

Even if taking of Official Notice of generally recording information associated with travel items was supported by Flake and Jafri, the fact that PNRs were well known and that standard information could be included on the PNRs does not teach or suggest that it would be well known to include information identifying each CRS for a booked travel item segment, as recited by the claimed invention. Moreover, the Examiner again relies on FIG. 16 of Flake which discloses that the system can establish communication with an appropriate CRS if a customer has returned an issued ticket. However, as discussed above, this particular portion of Flake suggests that it is the issued tickets, rather than the PNRs, that are employed to identify the appropriate CRS. Furthermore, the Examiner finds that the claims are written such that the name of an airline could identify a direct CRS, as defined in the present application. Applicants

respectfully disagree, as Claims 1, 12, and 24 not only recite that the travel itinerary booking record or PNR includes information associated with at least one booked travel item segment, but go further to recite that the booking record or PNR also includes information identifying each CRS for a respective booked travel item segment. As such, the claimed invention makes a distinction between information associated with the booked travel item segment (i.e., travel arrangements) and information identifying each CRS. The specification of the present application reiterates the distinction by stating that “the booking engine 302 books the travel item with the respective CRS, and the booked travel item segment is stored in a super passenger name record (PNR) in the database 110. . . . In some embodiments, the super PNR includes a CRS designation (e.g. the name of the CRS or the CRS locator) associated with each travel item segment.” Page 12, lines 16-23. Therefore, Applicants submit that even though Flake discloses that travel arrangements are stored on the PNR, Flake does not also disclose that the PNR includes information identifying each CRS.

The Examiner also addresses independent Claim 41, which was not specifically addressed in previous Office Actions. In this regard, Claim 41 recites that the travel itinerary booking record includes information associated with a plurality of booked travel item segments, and that each booked travel item segment is associated with a respective CRS and at least two booked travel item segments are associated with different respective CRSs. The Examiner acknowledges that Flake does not disclose at least two booked travel item segments that are associated with different respective CRSs, but relies on similar arguments relating to non-functional descriptive data and Official Notice under nearly identical reasoning as set forth with respect to independent Claims 1, 12, and 24.

Applicants respectfully disagree and refer the Examiner to the discussion presented above and in the Appeal Brief regarding the functionality of including such information in the travel itinerary booking record. The Examiner also relies on Official Notice to reject independent Claim 41, but appears to copy the conclusions based on Claims 1, 12, and 24 rather than specifically address Claim 41. In any event, Applicants submit that the arguments with respect to taking of Official Notice are substantially the same for each of the independent claims and that even if Official Notice is proper, Flake teaches away from independent Claim 41.

In this regard, the Applicants submit that the portions of Flake relied upon by the Examiner are misplaced. Namely, the Examiner finds that Flake discloses generating an itinerary booking record including information associated with a plurality of booked travel item segments, wherein each booked travel item segment is associated with a respective CRS. However, the cited portions of Flake generally relate to PNRs and only disclose that the PNR is a record of travel arrangements. Flake nowhere discloses that the PNRs include information associated with a plurality of booked travel item segments that are associated with a respective CRS. In contrast, Flake only discloses that “[a]irline travel arrangements are typically made using information from an airline travel computer reservation system, while bus travel arrangements are made using information from a different computer reservation system.” Col. 14, lines 64-67. Thus, at most Flake discloses that airline travel arrangements are contained on a single PNR but does not otherwise disclose that a plurality of CRSs associated with airline travel are included on a single PNR. It follows that Flake teaches away from generating a travel itinerary booking record that includes information for at least two booked travel item segments that are associated with different respective CRSs, as Flake discloses that each type of travel (e.g., flight) is associated with a particular type of CRS. Therefore, Applicants submit that Flake does not teach or suggest independent Claim 41 of the present application.

The Examiner also addresses several of the dependent claims presented in the Appeal Brief as being distinguishable from the cited references. In particular, the Examiner finds that Flake discloses dependent Claims 8, 19, and 31, which recite that providing access to the plurality of CRSs includes reading a predefined selection of a plurality of CRS and accessing the selected CRSs to check the availability of travel items at the CRSs. The Examiner contends that Flake discloses Claims 8, 19, and 31, as Flake discloses that users may enter vendor preferences that are stored in the relational database and that agents may contact vendors to discuss travel service options and whether such options are available. Applicants respectfully disagree, as Flake only discloses that an employer’s or a customer’s preferences are taken into account after the agent has already made travel arrangements for the customer. In particular, Flake discloses that “the agent can review the new travel arrangements for a customer, in order to determine if they meet the employer’s requirements” and make changes so that the system can display a new PNR. Col. 10, lines 34-40. Moreover, FIG. 9 of Flake relates to requesting special travel

services that are available with a particular vendor after the PNR has already been created, such that such contact with the vendors occurs after the generation of the booking record or PNR, which is unlike the claimed invention where the predefined selection of CRSs is used to access the CRSs during the booking process to check availability of travel items at the CRSs in order to allow the client to book at least one travel item segment and generate the booking record or PNR.

Moreover, the Examiner finds that the combination of Flake and Jafri discloses dependent Claims 9, 20, and 32, which recite that the predefined selection of the plurality of CRSs includes a default CRS or a primary CRS and at least one secondary CRS. The Examiner initially notes that the claims could be read in two ways: “the predefined selections could be identified as (1) a default CRS and (2) a primary CRS and at least one secondary CRS,” or as “(1) a default or primary CRS (wherein the term default and primary describe the same CRS) and (2) at least one secondary CRS.” Applicants submit that Claims 9, 20, and 32 clearly recite that the predefined selections includes either a default *or* primary CRS *and* at least one secondary CRS. In the final Office Action, the Examiner found that it was the ability to select seat availability in a desired class (i.e., best fare, coach class, first class, or business class) of Jafri that disclosed Claims 9, 20, and 32. The Examiner now relies on portions of Jafri that relate to connections to a CRS via respective terminal addresses (TAs), where processing the first TA is a default CRS, and the second and third TAs are secondary CRSs. Applicants respectfully disagree with the Examiner’s interpretation of Jafri, as a closer look at FIG. 3 and the specification of Jafri indicates that “TA2 and TA3, are used to, in CRS parlance, sell selected lines from the response on TA1 to complete Itinerary 2 and Itinerary 3.” Col. 4, lines 47-49. Thus, only a single CRS is being accessed to generate Itineraries 1, 2, and 3, as “lines 1, 3, and 4 [of FIG. 3] are selected, corresponding to flights on United Airlines (UA), Delta Airlines (DL) and TransWorld Airlines (TW),” and “three different flights are selected, giving preference in each instance to a flight on the same airline as the first flight selected on a particular TA.” Col. 5, lines 2-4 and 31-33. Therefore, the list of flight legs returned from the CRS via TA1 is used to determine the first segment of each itinerary corresponding to TA1, TA2, and TA3, where the particular segments are selected from the CRS based on user preferences. Thus, it is the selection of particular flight legs within a single CRS that is based on user preferences rather

than a predefined selection of CRSs including a default or primary CRS and at least one secondary CRS, which is clearly different than Claims 9, 20, and 32 of the present application.

The Examiner also addresses dependent Claim 18, which recites a terminal access editor (TAE) that is used to define a selection of the plurality of CRSs for the client to be stored in a database and accessed during the travel booking request for the client. The Examiner believes that a TAE is disclosed by Jafri based on Client Servicing files that relate to the assignment of TAs to access the CRS. The Examiner contends that Applicants argued limitations that were not claimed in the Appeal Brief, but such background discussion was simply provided to put into context the clear difference between the claimed TAE and the portions of Jafri relied upon by the Examiner. As indicated above with respect to Claims 9, 20, and 32, Jafri does not teach or suggest that the TAs are connected to respective CRSs but, rather, are used to connect to the CRS and generate itineraries based on a first search for flights performed via TA1. Thus, the assignment of a TA to the CRS simply includes selecting one of the flights returned from the search at TA1 in order to build second and third itineraries. Therefore, the TA of Jafri is clearly unlike the TAE of the claimed invention where the TAE is used to define a selection of CRS for the client to be stored in a database and accessed during the travel booking request, as recited by Claim 18.

The Examiner further asserts that the functional language of Claim 18 is intended use. Applicants continue to disagree that Claim 18 recites intended use that does not distinguish the cited references, as under the Examiner's line of reasoning no computer or data processing system would be patentable if otherwise conventional components (e.g., a server) could not recite functional limitations in the claims to distinguish the prior art. As noted above, the Board of Patent Appeals and Interferences has held that the Applicant is able to recite features of an apparatus structurally or functionally, but it is the Examiner's duty to demonstrate that the functional limitations of the claim are an inherent characteristic of the prior art. In this regard, *Ex parte Levy*, quoted in both MPEP § 2112 and *Ex parte Bamber*, states that "the initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention rests upon the examiner" and that in "relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the prior art." 17 USPQ2d 1461,

1463-64 (Bd. Pat. App. & Int. 1990) (emphasis in original). See also *Ex parte Skinner*, 2 USPQ2d 1788, 1789 (Bd. Pat. App. & Int. 1986) that is cited in *Ex parte Bamber* and *In re Robinson*, 169 F.3d 174, 745 (Fed. Cir. 1999) that is cited in both MPEP § 2112 and *Ex parte Skinner* in support of the proposition that the mere probability or possibility of a certain result or characteristic is not sufficient to establish inherency.

In the present application, Jafri does not teach or suggest the functions performed by at least the TAE of Claim 18. As such, the Examiner merely alleges that certain components described by Jafri perform the functions of the TAE or would be capable of performing the functions of the TAE of Claim 18. However, as noted above, Jafri is clearly distinguishable, as Jafri does not teach or suggest that the TAs are connected to respective CRSs but, rather, are used to connect to a CRS and generate itineraries based on a first search for flights performed via TA1. As such, the assignment of a TA to the CRS simply includes selecting one of the flights returned from the search at TA1 in order to build second and third itineraries. The Server and Client Servicing files relied upon by the Examiner relate to the assignment of TAs to access the CRS and files relating to the algorithm used to process travel requests and, therefore, do not perform the functions of the TAE and such functions are not an inherent characteristic of Jafri. Thus, even if Claim 18 recites intended use or functional language, Applicants have shown that Jafri does not disclose a TAE or the capability of defining the selection of a plurality of CRSs for the client to be stored in a database and accessed during the travel booking request, as discussed above and recited by Claim 18 of the present application.

Finally, the Examiner finds that dependent Claims 35, 37, and 39 include non-functional descriptive data, as the claims recite that the information associated with each CRS for a respective booked travel item segment includes at least one of a name of the CRS and a CRS locator. Applicant refers the Examiner to the arguments presented above with respect to independent Claim 1 regarding the fact that the information associated with each CRS for a respective booked travel item segment is functionally interrelated with the steps of the claim. The Examiner argues that Applicants attempt to argue limitations that are not in the claims by referring to the specification when discussing the CRS locator. However, such reference was made in order to highlight the functionality imparted by the CRS locator, as well as clarify the CRS locator and point out that there is a difference between the name of the CRS and the CRS

locator. The Examiner again relies on FIG. 16 of Flake as disclosing that the PNR must include information identifying the CRS in order to process returned tickets, but Applicants refer to the rebuttal arguments above associated with independent Claims 1, 12, and 24. In addition, as described above in conjunction with independent Claims 1, 12, and 24, although Flake and Jafri disclose PNRs containing standard PNR data or travel arrangement information, neither reference discloses information identifying each CRS for a respective booked travel item segment let alone the name of a CRS or a CRS locator.

As such, it is apparent that none of the cited references, taken alone or in combination, teaches or suggests generating a travel itinerary booking record or PNR including information associated with at least one booked travel item segment and information identifying each CRS for a respective booked travel item segment, as recited by independent Claims 1, 12, and 24. In addition, none of the cited references, taken alone or in combination, teaches or suggests generating a travel itinerary booking record including information associated with a plurality of booked travel item segments, wherein each booked travel item segment is associated with a respective CRS and at least two booked travel item segments are associated with different respective CRSs, as recited by independent Claim 41. Applicants submit that each of the dependent claims are distinguishable for at least those reasons discussed in conjunction with a respective independent claim and that Claims 8, 9, 18-20, 31, 32, 35, 37, and 39 are further distinguishable for at least those additional reasons discussed herein and in the Appeal Brief. For the forgoing reasons as well as for the additional reasons set forth in the Appeal Brief, Applicants submit that the rejections of all of the pending claims under 35 U.S.C. § 103(a) are overcome.

Respectfully submitted,



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